I/We claim as follows:

1. A water soluble adduct resulting from free radical solution polymerization of an unsaturated carboxylic acid monomer and an unsaturated hydroxyl monomer, the polymerization conducted in the presence of a chain transfer agent.
2. The water soluble adduct of claim 1 wherein the unsaturated carboxylic acid monomer has a molecular weight of less than 500 and has 2 or more carboxylic acid (-COOH) moieties.
3. The water soluble adduct of claim 2 wherein the unsaturated carboxylic acid monomer is selected from aconitic acid, itaconic acid, maleic acid, acrylic acid, methacrylic acid, an adduct of citric acid and maleic acid, crotonic acid, isocrotonic acid, citraconic acid, and maleic anhydride.
4. The water soluble adduct of claim 1 wherein the unsaturated hydroxyl monomer has a molecular weight of less than 500 and has 2 or more, hydroxyl (-OH) groups.
5. The water soluble adduct of claim 4 wherein the unsaturated hydroxyl monomer is selected from allyl lactate, hydroxyethyl acrylate, hydroxyethyl methacrylate, hydroxypropyl acrylate hydroxypropyl methacrylate, 2-allyloxy ethanol, vinyl acetate, glycidyl acrylate, glycidyl methacrylate, allyl glycidyl ether, and allyl glycidol.
6. The water soluble adduct of claim 1 wherein the unsaturated carboxylic acid monomer and the unsaturated hydroxyl monomer are provided in an amount to maintain a mole ratio of –COOH contributed by the monomeric unsaturated carboxylic acid component to –OH contributed by the monomeric unsaturated hydroxyl component (-COOH:-OH) in the range of about 10:1 to 1:10.
7. The water soluble adduct of claim 6 wherein the mole ratio is in the range of 1.5:1 to 0.7:1.
8. The water soluble adduct of claim 1 wherein the chain transfer agents is selected from allyloxypropane diol, thioglycol, mercaptans, an adduct of rosin and maleic acid, an adduct of rosin and fumaric acid and an adduct or rosin and maleic anhydride.

9. The water soluble adduct of claim 1 wherein the free radical solution polymerization also is conducted in the presence of an anionic or cationic ethylenically unsaturated monomer.

10. The water soluble adduct of claim 1 or 9 wherein the free radical solution polymerization also is conducted in the presence of a hydrophobic comonomer.

11. The water soluble adduct of claim 9 wherein the anionic comonomer is selected from sodium para-styrene sulfonic acid and allyloxy propanediol sodium sulfonate.

12. The water soluble adduct of claim 9 wherein the cationic unsaturated monomer is selected from acrylamido-3-propanetrimethyl ammonium chloride and methacryloyloxyethyl trimethyl ammonium chloride.

13. An aqueous binder composition for making glass fiber products comprising the water soluble adduct of claim 1.

14. An aqueous binder composition for making glass fiber products comprising the water soluble adduct of claim 2.

15. An aqueous binder composition for making glass fiber products comprising the water soluble adduct of claim 4.

16. An aqueous binder composition for making glass fiber products comprising the water soluble adduct of claim 7.

17. An aqueous binder composition for making glass fiber products comprising the water soluble adduct of claim 9.

18. An aqueous binder composition for making glass fiber products comprising the water soluble adduct of claim 10.

19. An aqueous binder composition of claims 13, 14, 15, 16, 17, or 18 also comprising a crosslinking agent selected from the group consisting of a saturated hydroxy-acid, a polyol, a polycarboxylic acid, a polyamine, a polyamide, a polyaminoamide, and a polyester.

20. A method for binding together a loosely associated mat of glass fibers comprising (1) contacting said glass fibers with the aqueous binder composition of one of claims 13, 14, 15, 16, 17 or 18 and (2) heating said aqueous binder composition at an elevated temperature sufficient to effect cure.

21. A method for binding together a loosely associated mat of glass fibers comprising (1) contacting said glass fibers with the aqueous binder composition of claim 19 and (2) heating said aqueous binder composition at an elevated temperature sufficient to effect cure.

22. A glass fiber product obtained by curing the aqueous binder composition of one of claims 13, 14, 15, 16, 17 or 18 applied to a mat of nonwoven glass fibers.

23. A glass fiber product obtained by curing the aqueous binder composition of claim 19 applied to a mat of nonwoven glass fibers.

24. The glass fiber product of claim 22 wherein the glass fiber product is a fiberglass insulation product.

25. The glass fiber product of claim 23 wherein the glass fiber product is a fiberglass insulation product.

26. A method for increasing wet strength of paper comprising (1) contacting said paper with an aqueous binder composition containing the water soluble adduct of claim 12 and (2) heating said aqueous binder composition at an elevated temperature sufficient to effect cure.